Fall 9-1-2000

MATH 421.01: Abstract Algebra

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Math 421 Abstract Algebra Fall 2000

Lectures MTWF 1:10-2, Math 311

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Office hours to be arranged at first class meeting

The *required text* is Hungerford's *Abstract Algebra, an introduction.* Chapters 2, 3, 4, 7 will be covered in detail. In addition, review topics such as in Chapter 1, and applications such as in Chapters 12, 13, 15 will be treated.

Most likely, one lecture per week will be a discussion session covering homework and other problems.

Homework will be assigned often and solutions to selected problems distributed. Sets of 6 problems will be regularly taken in and graded. Problems to be graded will be weighted by degree of difficulty — the A problems are worth 10, B problems 15, C problems 20. Graduate students must do all 6 problems; undergraduates may do 5, and their best 5 will count.

There will be one mid-term exam and a final exam. The final score for the course will be 50% final exam, 25% midterm and 25% homework.

This course is an introduction to abstract algebraic structures and is followed naturally by Math 422 (using the same text). These abstractions arose historically from the detailed study of examples, allowing analogies between them to become apparent. We will not have time to follow the historical development, but it is important to understand concrete examples and to refer to them whenever trying to understand a new general concept. The treatment will be rigorous — we shall prove essentially everything. It will be useful to review basic proof techniques and logical argument as in the appendices to the text.